HYSPLIT PC TRAINING SEMINAR

HYbrid Single-Particle Lagrangian Integrated Trajectory Model

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10 June 2004

History

1 – 1979	rawinsonde data with day/night (on/off) mixing NOAA Tech Memo ERL ARL-112 (1982)
2 - 1983	rawinsonde data with continuous vertical diffusivity NOAA Tech Memo ERL ARL-166 (1988)
3 - 1987	model gridded fields with surface layer interpolation NOAA Technical Memo ERL ARL-195 (1992)
4 - 1996	multiple meteorological fields and combined particle-puff NOAA Technical Memo ERL ARL-224 (1997)

4.0 – 8/1998	switch from NCAR to postscript graphics for PC
4.1 – 7/1999	isotropic turbulence for short-range simulations
4.2 – 12/1999	terrain compression of sigma & use of polynomial
4.3 – 3/2000	revised vertical auto-correlation for dispersion
4.4 – 4/2001	dynamic array allocation and support lat-lon grids
4.5 – 9/2002	ensemble, matrix, and source attribution options
4.6 – 6/2003	non-homogeneous turbulence correction, dust storm
4.7 – 1/2004	velocity variance, TKE, new short-range equations

Features

- Predictor-corrector advection scheme
- Linear spatial & temporal interpolation of meteorology from external sources
- Vertical mixing based upon SL similarity, BL Ri, or TKE
- Horizontal mixing based upon velocity deformation, SL similarity, or TKE
- Puff and Particle dispersion computed from velocity variances
- Concentrations from particles-in-cell or Top-Hat/Gaussian distributions
- Multiple simultaneous meteorology and/or concentration grid

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